I claim:

1. A method for producing a multifaceted, self-supporting, angle-selective light redirecting system comprising:

(a) laser cutting two or more arrays of parallel laser cuts through or partly through a flat sheet of transparent acrylic plastic with narrow strips of solid transparent acrylic plastic being left uncut between adjoining arrays of laser cuts, said arrays of parallel laser cuts covering a segment of said flat sheet in a pattern such that the removal of said segment of flat sheet and the folding of said segment of flat sheet along the lines of the narrow solid strips between each array of parallel laser cuts in the segment would result in a multifaceted, three dimensional structure of saddle, pyramidal or higher order form;

(b) cutting and removing said segment out of said flat sheet;

(c) positioning said segment on a table such that one of the narrow strips of solid clear plastic between the arrays of laser cuts is aligned directly above a narrow linear heating element slotted into the surface of said table;

(d) applying electrical power to raise the temperature of said linear heating element such that the narrow strip of solid plastic between adjoining arrays of laser cuts in said segment is heated and softened;

(e) folding said segment along the line of the narrow strip which has been softened through an angle suited to the formation of the required three dimensional structure then allowing the narrow strip of plastic to cool and solidify;

(f) repeating the procedure of steps (c), (d) and (e) for each narrow strip of solid plastic between adjoining arrays of laser cuts so as to form a multi-faceted, three dimensional, self supporting angle-selective roof lighting system with each facet of the system having an array of laser cuts through or partly through the facet.

2. A method for producing a multifaceted, three dimensional, self-supporting, angle-selective lighting system comprising:

(a) laser cutting two or more arrays of parallel laser cuts through or partly through a flat sheet of transparent acrylic plastic with narrow strips of solid transparent acrylic plastic being left uncut between adjoining arrays of laser cuts, said arrays of parallel laser cuts covering a segment of said flat sheet in a pattern such that the removal of said segment of flat sheet and the folding of said segment of flat sheet along the lines of the narrow solid strips between each array of fine parallel cuts in the segment would result in a multifaceted, three dimensional structure of saddle, pyramidal or higher order form; in the case of a saddle form each of the two facets being of rectangular form and in the case of a pyramid or higher order form each facet being of triangular form with a base and a peak; said arrays of parallel laser cuts being made parallel to the base of the facets;

(b) cutting and removing said segment out of said flat sheet;

(c) positioning said segment on a table such that each individual narrow strip of solid clear plastic between the arrays of laser cuts is aligned directly above one narrow linear heating element of a group of narrow heating elements slotted into the surface of said table;

(d) applying electrical power to raise the temperature of said linear heating elements such that the narrow strips of solid plastic between adjoining arrays of cuts in said segment are heated and softened;

(e) folding said segment along the lines of the narrow strips which have been softened through an angle suited to the formation of the required three dimensional structure then allowing the narrow strips of plastic to cool and solidify so as to form a multi-faceted, self-supporting, angle-selective roof lighting system with each facet of the system containing an array of parallel laser cuts through or partly through the facet.

3. A method for producing a multifaceted, three-dimensional, self-supporting angle-selective light redirecting system comprising:

(a) cutting a segment from a flat transparent sheet of acrylic and folding or moulding said segment of acrylic so as to form a multifaceted, three-dimensional self-

supporting structure of saddle, pyramidal or higher order form; in the case of a saddle form, each of the two facets being of rectangular form and in the case of a pyramid or a higher order form, each facet being of triangular form with a base and a peak;

(b) cutting an array of parallel laser cuts in each individual facet of said three dimensional structure with a laser cutting machine, said laser cuts being made parallel to the base of the individual facets forming said structure and said arrays of laser cuts being made through or partly through each individual facet of the three dimensional structure such that each facet of said structure acquires a light redirecting property.

4. A method for producing a conical light redirecting system comprising:

(a) cutting from a flat sheet of transparent acrylic a disc having an inner edge defined by a smaller inner radius about a centre and having an outer edge defined by a larger outer radius about the same centre, said disc having two radial edges defined by a segment cut from said disc such that on deformation of said disc into conical form the radial edges would join to form a truncated cone;

(b) making a series of concentric laser cuts about the centre of said disc, said laser cuts being made through or partly through said disc at a radial spacing between the concentric laser cuts and at a cut depth such that the ratio of

radial spacing of laser cut to the depth of laser cut is substantially in the range 0.4 to 0.7;

(c) softening said disc by heating and deformation of said disc into conical form by compression between two conically shaped moulds;

(d) cooling the moulds and the cone of acrylic to below the softening temperature of the acrylic and removing the cooled and solid truncated cone from the moulds

(e) joining the radial edges of said laser cut truncated cone with acrylic adhesive or other means.

5. A multifaceted, three-dimensional, structurally self-supporting angle-selective light redirecting system as in claim 1 positioned in an aperture in the roof of a building to increase the acceptance and transmittance of low elevation sunlight to rooms below and to reduce the transmittance of high elevation sunlight to rooms below.

6. A multifaceted, three-dimensional, structurally self-supporting angle-selective light redirecting system as in claim 2 positioned in an aperture in the roof of a building to increase the acceptance and transmittance of low elevation sunlight to rooms below and to reduce the transmittance of high elevation sunlight to rooms below.

7. A multifaceted, three dimensional, structurally self-supporting angle-selective light redirecting system as in claim 3 positioned in an aperture in the roof of a building to

increase the acceptance and transmittance of low elevation sunlight to rooms below and to reduce the transmittance of high elevation sunlight to rooms below.

8. A conical self-supporting angle-selective light redirecting system as in claim 4 positioned in an aperture in the roof of a building to increase the acceptance and transmittance of low elevation sunlight to rooms below and to reduce the transmittance of high elevation sunlight to rooms below.